

Notice of Allowability

Application No.

10/691,556

Applicant(s)

MAIDA ET AL.

Examiner

Art Unit

Greg F. Cunningham

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment received 07/02/2007.
2. ☒ The allowed claim(s) is/are 1-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. This action is responsive to amendment filed 07/02/2007.
2. The disposition of the claims is as follows: claims 1 - 13 are pending in the application. Claims 1, 12 and 13 are independent claims. Claims 12 and 13 have been added.

Claim Rejections - 35 USC § 102 and 103

3. In view of amended claims and review of cited references, 102 and 103 rejections are withdrawn.

Examiner's Amendment

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Temnit Afework, (Registration Number 58,202), on 08/20/2007.

The application has been amended as follows:

Claim 13 is cancelled.

Allowable Subject Matter

5. Claims 1 - 12 are allowed.
6. The following is an examiner's statement of reasons for allowance:

Applicant's amended independent claim 1 stands novel over the related prior art. For instance, the related art of Honda et al. (US 6,249,598), does make use of a tested-object design dimension estimating means, failure determination if the characterizing amounts detected from an object under testing during a test deviate from the mean value of the previously derived characterizing amounts of the non-defective boards by a predetermined amount; and standard shape estimating means for statistically processing the shape characterizing amounts for soldering portions. However, Honda, either alone and/or in combination with the previous cited art, do(es) not disclose “solder shape calculating means for calculating shape information of a plurality of virtual solder fillets based on said design information; inspection image calculating means for calculating an inspection image according to said shape information of said virtual solder fillets; characteristic amount calculating means for calculating characteristic amounts of virtual solder shapes from said inspection images; solder shape defective/nondefective determining means for determining whether the virtual solder shapes are defective or nondefective from said shape information of said virtual solder fillets by using said inspection standard; and characteristic amount outputting means for outputting said characteristic amounts of said virtual solder shapes and a result of defective/nondefective determination to compare said characteristic amounts with said result of defective/nondefective determination to thereby determine a threshold value of said characteristic amount” as claimed in independent claim 1.

Claims 2-11 depend from allowable independent claim 1 and therefore are also allowed.

Furthermore Honda, either alone and/or in combination with the previous cited art, lack(s) “inputting design information of an inspection of object; inputting an inspection standard specifying a defective range on solder amount or solder wetting amount; calculating shape

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information of a virtual solder fillet based on said design information; calculating an inspection image according to said shape information of said virtual solder fillet; calculating a characteristic amount of virtual solder shape from said inspection image; determining whether the virtual solder shape is defective or nondefective from said shape information of said virtual solder fillet by using said inspection standard; and outputting the characteristic amount of said virtual solder shape and a result of defective/nondefective determination to compare said characteristic amount with said result of defective/nondefective determination to thereby determine a threshold value of said characteristic amount” as claimed in independent claim 12.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Responses

8. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231. If applicant desires to fax a response, (703) 872-9306 may be used for formal communications.

Inquiries

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

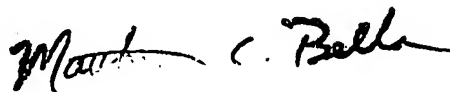
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Greg Cunningham

Examiner, Art Unit 2624

8/20/2007



MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600